

Work Order ID 68086

Wednesday, April 06, 2011 11:38:23 AM

PRELIMINARY ISSUE

Page 1

Item ID: D206-667-147TRN

Accept

Revision ID:

Item Name: Crosstube Ass'y

Start Date: 4/5/2011 Start Qty: 1.00

Required Date: 4/18/2011 Req'd Qty: 1.00

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D206-667-147

Rev A

OK to Rev A 11.05.25

100

0.00



Mori Seiki

Mori Seiki CNC Lathe Large

MORI SEIKI CNC LATHE LARGE

Memo

0.00

1-Fill tube with sand & install plugs DTxxxx on both ends as per Folio FB029
2-Turn first side as per Folio FB029
3-File down transition lines smooth.

ml 11.4.8

110

0.00



QC

Quality Control

QC1- Inspect dimensions to dimension sheet

Memo

0.00

ml 11.4.8

120

0.00



Mori Seiki

Mori Seiki CNC Lathe Large

MORI SEIKI CNC LATHE LARGE

Memo

0.00

1-Turn second side as per Folio FB029
2-File down transition lines smooth.
3-Remove sand and plugs

ml 11.4.8

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D206-667-14TRN PAR #: N/A Fault Category: _____ NCR: Yes ☐ No ☒ DQA: AK Date: _____
 QA: N/C Closed: _____ Date: _____

NCR: <u>68086</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
11.04.19	100	O.D. 15 0.002" over tolerance at one location above cuff	CP 11.04.19 Q51042	Acceptable. Located at radius transition above cuff. No effect on strength or stiffness	N/A	N/A	CP 11.04.19 Q51042	JA

NOTE: Date & initial all entries

Work Order ID 68086

Wednesday, April 06, 2011 11:38:23 AM



Page 2

Item ID: D206-667-147TRN

Accept



Setup Start



Revision ID:

Stop



Item Name: Crosstube Ass'y

Start Date: 4/5/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 4/18/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 QC Quality Control	QC1- Inspect dimensions to dimension sheet Memo	0.00 0.00		<i>11.4-8</i>		<i>1</i>			
140 QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00		<i>on 11/04/11</i>		<i>1</i>	<i>1</i>		
150 HandFXtube Hand Finishing Crosstubes	Crosstubes Chemical Conversion Memo	0.00 0.00		<i>SAD 11-04-11</i>		<i>1</i>			

Work Order ID 68086

Wednesday, April 06, 2011 11:38:23 AM

Page 3

Item ID: D206-667-147TRN

Accept

Setup Start

Revision ID:

Stop

Item Name: Crosstube Ass'y

Start Date: 4/5/2011 Start Qty: 1.00

Cust Item ID:

Required Date: 4/18/2011 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

160

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

DP

11-4-11

170

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and stock in kanban rack
Location: 46

DP

11-4-11

180

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

Test PA1
11.04.20P11-04-11
①

11/5/30

POSITIVE RECALL

EFFECTIVE AUTH

RELEASED DATE 11.06.25

Picklist Print

Wednesday, April 06, 2011 11:38:20 AM

Page 1

Work Order ID: 68086



Parent Item: D206-667-147TRN



Parent Item Name: Crosstube Ass'y

Start Date: 4/5/2011

Required Date: 4/18/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP rev:A 11.01.06 new issue DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D6002-115

Manufactured

No

100

Each

32.0000

1

1



11.4.8

Crosstube Material

Location

Loc Qty

Loc Code

LG

32

34684

1

34776 ✓

31

6

DART AEROSPACE LTD		Work Order: <i>608</i>
Description: <i>X-TUBE</i>		Part Number: <i>206 661-147</i>
Inspection Dwg:	Rev: <i>PA1</i>	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☒ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
<i>2.240</i>	<i>+0.005 - 0.0</i>	<i>2.240</i>	<i>/</i>		<i>RD .02</i>	
<i>1.984</i>	<i>+0.005 - 0.0</i>	<i>1.991</i>	<i>/</i>	<i>✓</i>		<i>+0.002</i>
<i>2.019</i>	<i>+0.005 - 0.0</i>	<i>2.024</i>	<i>/</i>			
<i>2.058</i>	<i>+0.005 - 0.0</i>	<i>2.063</i>	<i>/</i>			
<i>2.097</i>	<i>+0.005 - 0.0</i>	<i>2.102</i>	<i>/</i>			
<i>2.136</i>	<i>+0.005 - 0.0</i>	<i>2.141</i>	<i>/</i>			
<i>2.176</i>	<i>+0.005 - 0.0</i>	<i>2.181</i>	<i>/</i>			
<i>.125</i>	<i>+/- .010</i>	<i>.120</i>	<i>/</i>		<i>RD .02</i>	
<i>4.438</i>	<i>+/- .030</i>	<i>4.415</i>	<i>/</i>			
<i>5.160</i>	<i>+/- .030</i>	<i>5.140</i>	<i>/</i>			
<i>R2.00</i>	<i>+/- .030</i>	<i>R2.00</i>	<i>/</i>			
<i>R.063</i>	<i>+/- .010</i>	<i>R.063</i>	<i>/</i>			
<i>99.84</i>	<i>+/- .020</i>	<i>99.845</i>	<i>/</i>		<i>RD .14</i>	

Measured by: <i>AD</i>	Audited by: <i>and</i>	Prototype Approval: <i>AP</i>
Date: <i>11.4.8</i>	Date: <i>11/04/11</i>	Date: <i>11.04.11</i>

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	

Item	Qty -147	Part Number	Description
1	X	D206-667-147	CROSSTUBE ASSEMBLY (206L MID FWD)
2	1	D6002-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2891-1	SUPPORT
6	4	D3595-063-395	RUBBER CUSHION
7	4	MS21920-20	CLAMP (OR MS21920-21)
8	14	MS20601AD4W8	RIVET (OR NAS9302B-4-8)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299- 947-100, TYPE II, CLASS 2 ADHESIVE)

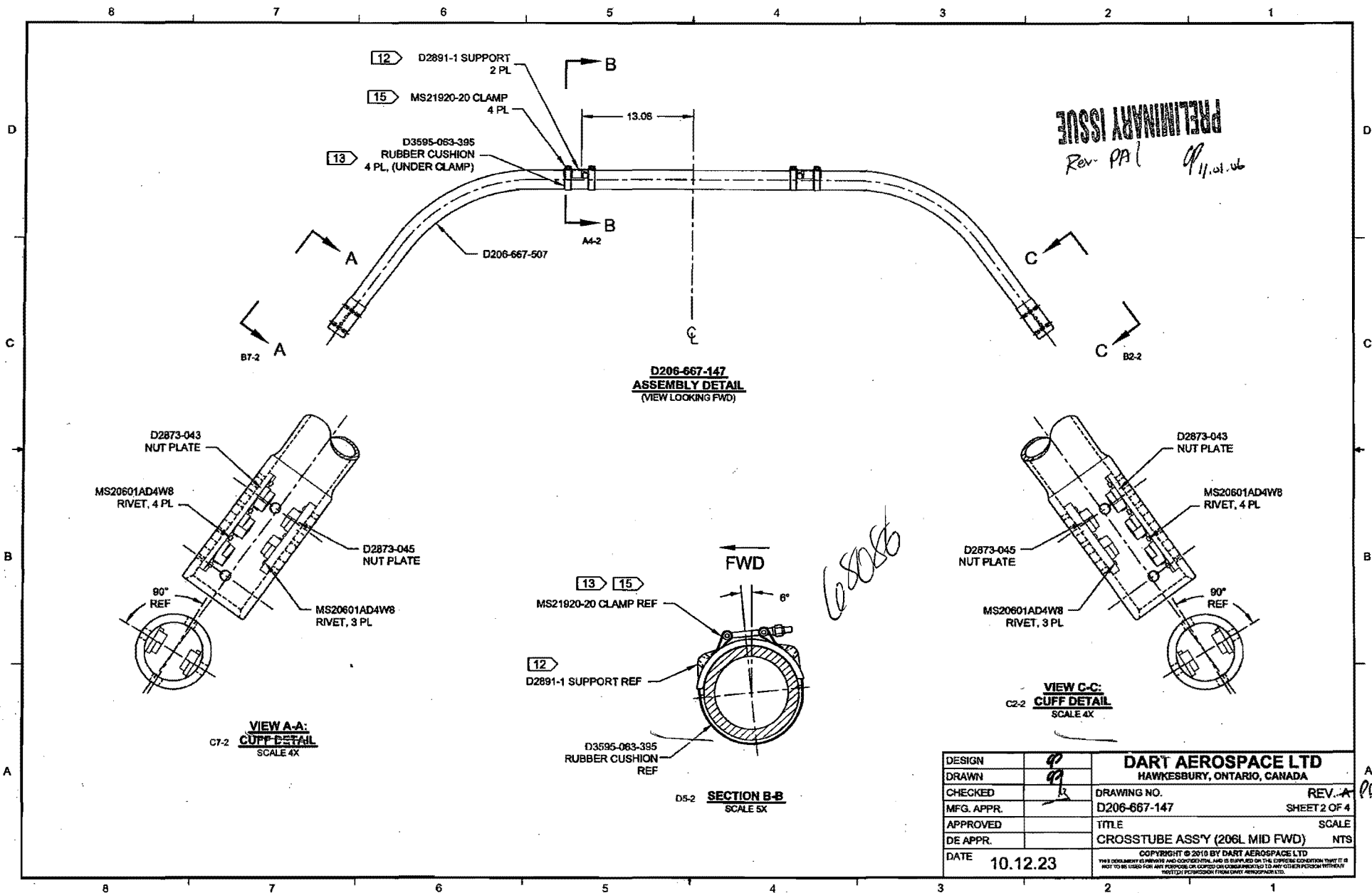
GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6002-115
FINISHED LENGTH = 99.84±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-147" AND BATCH NUMBER ON
INSIDE OF CUFF PER DART QSI 044 6.4 (VIBRATING STYLUS).
- 7) WEIGHT: 15.0 lbs (-507 = 12.84)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY,
TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE
TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI
015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-20 CLAMPS (OR -21) WITH D3595-063-395 RUBBER CUSHIONS TO SECURE
THE D2891-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS
ARE LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN
SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

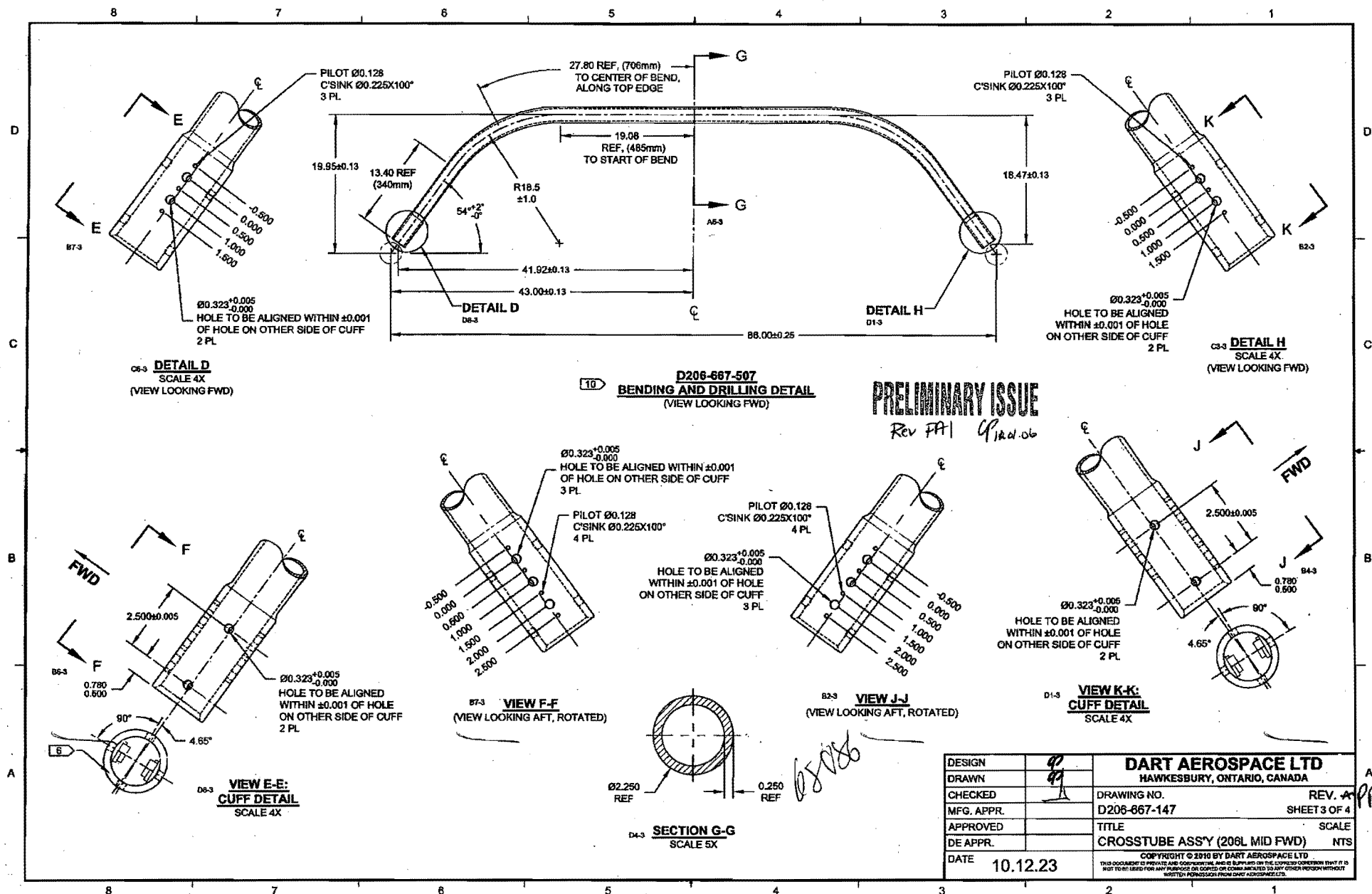
PRELIMINARY ISSUE

Rev #71 CP 10.61.06

PA	NEW ISSUE	CP	10.11.23
REV.	DESCRIPTION	BY	DATE
DESIGN	PP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	PP	DRAWING NO.	REV. A
CHECKED	PP	D206-667-147	SHEET 1 OF 4
MFG. APPR.		TITLE	SCALE
APPROVED		CROSSTUBE ASS'Y (206L MID FWD)	NTS
DE APPR.		COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS NOT TO BE USED FOR ANY PURPOSES OR DISCLOSED OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	10.12.23		



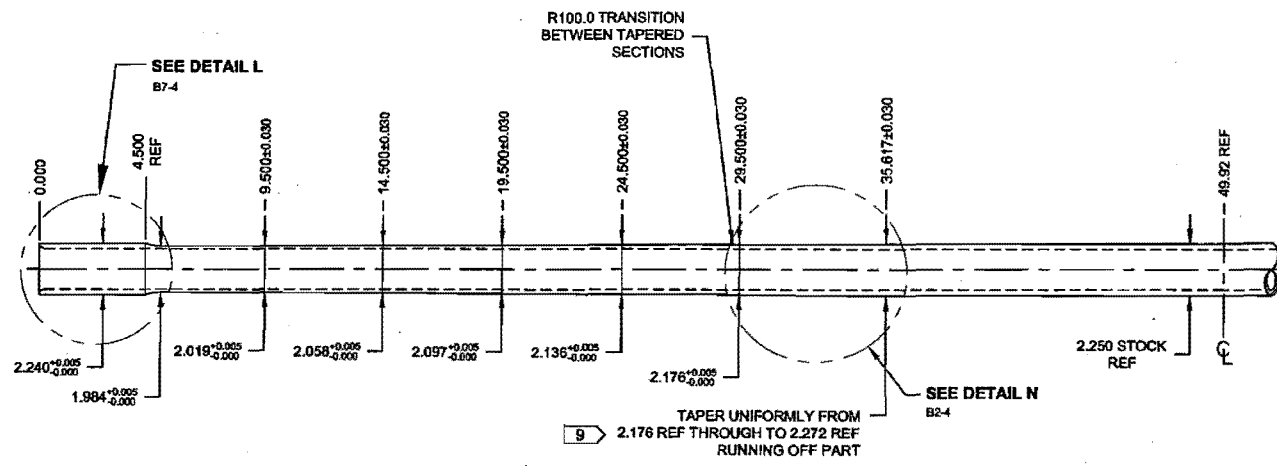
DESIGN	99	DART AEROSPACE LTD	
DRAWN	99	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D206-667-147	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE ASSY (206L MID FWD)	NTS
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8 7 6 5 4 3 2 1

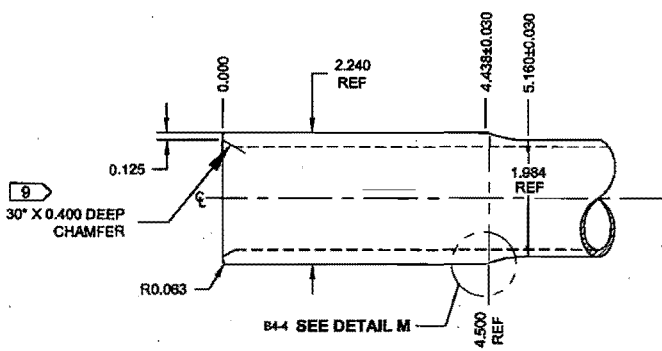
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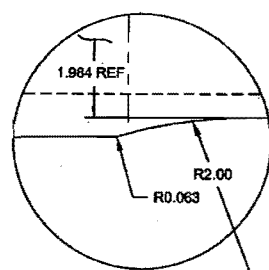


TURNING DETAIL

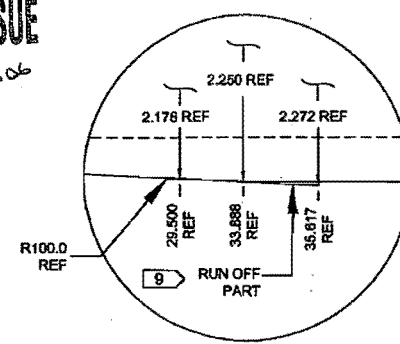
PRELIMINARY ISSUE
REV. PA1 9/11.01.06



DETAIL L: CROSSTUBE CUFF
D7-4 NOT TO SCALE



DETAIL M: CUFF TRANSITION
A6-4 NOT TO SCALE



DETAIL N: TAPER RUN-OFF
C4-4 NOT TO SCALE

DESIGN	PA1	DART AEROSPACE LTD	
DRAWN	PA1	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PA1	DRAWING NO.	REV. A
MFG. APPR.		D206-667-147	SHEET 4 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE ASS'Y (206L MID FWD)	NTS
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8 7 6 5 4 3 2 1

A
PA1

Dep: Friday, 9/21/2007 12:59:28 PM
User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : CROSSTUBE EXTRUSION (206L)
Job Number : 34776	
Estimate Number : 10025	
P.O. Number :	Part Number : D6002115
This Issue : 9/21/2007 S.O. No. :	Drawing Number : D6002 REV A
Prsht Rev. : NC	Project Number : N/A
First Issue : / / Type : RMA	Drawing Revision : A
Previous Run : 34684	Material :
Written By :	Due Date : 9/28/2008 Qty: 55 Uln: Each
Checked & Approved By : <i>[Signature]</i> 09/24	
Comment : Est Rev B 00.12.15 Added: Issue P/O EC	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	PG	PURCHASING
-----	----	------------



Comment: PURCHASING

Issue P/O *4660*

0207/09/24

a) Extrude as per Dwg D6002

b) Material: 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9

or QQ-A-200/11) seamless aluminum tube

c) Minimum ultimate tensile strength = 77 ksi

d) Minimum tensile yield strenght=66 ksi

e) Material certification required

(55)

2.0	D6002115P	Crosstube material
-----	-----------	--------------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 55.0000 Each(s)
Crosstube material

3.0	PACKAGING 1	PACKAGING RESOURCE #1
-----	-------------	-----------------------



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure material certification is attached

(M 109291)

JS 08/09/16

4.0	QC6	DIMENSIONAL CHECK
-----	-----	-------------------



Comment: DIMENSIONAL CHECK

Ensure Material certification comply to Dwg D6002

08/09/17 (163)

counter

Date: Friday, 9/21/2007 12:59:28 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: CROSSTUBE EXTRUSION (206L)

Job Number: 34776

Part Number: D6002115

Job Number:



Seq. #:

Machine Or Operation:

Description:

5.0

HAND FINISHING1

HAND FINISHING RESOLRCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

6.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: *in front of stores*

RT 08-09-17

7.0

QC21

FINAL INSPECTION/W/O RELEASE



08/09/18

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



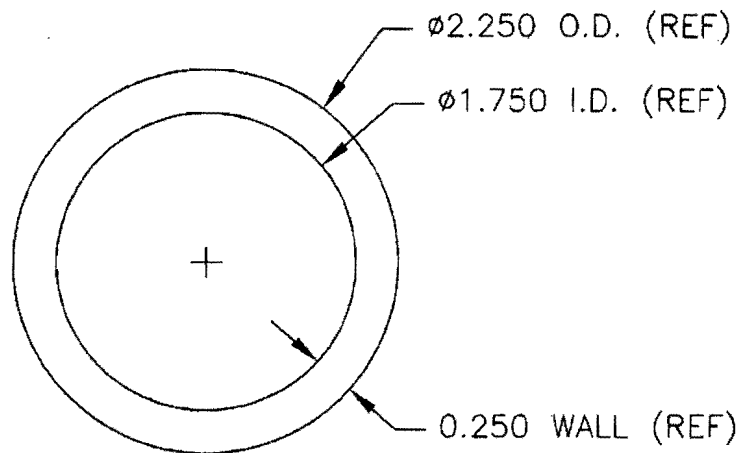
W 08.09.18



DESIGN UP	DRAWN BY UP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D6002	REV. A SHEET 1 OF 1
DATE 00.11.22		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.22	NEW ISSUE	

SPECIFICATION CONTROL DRAWING

RELEASED
00.11.24



NOTES

- 1) D6002-XXX CROSSTUBE
LENGTH

WHERE XXX IS LENGTH IN INCHES
EG. 115" LONG TUBE: D6002-115

- 2) MATERIAL: 2.250 OD x 0.250 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:
O.D.: ± 0.006 MEAN (± 0.012 INCLUDING OVALITY)
WALL: ± 0.008 MEAN (± 0.025 INCLUDING ECCENTRICITY)
LENGTH: XXX $+0.125/-0.000$
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH

- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 34776

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Customer PO	PO. 00004660
ALUnna ref. no.	27068/1
Date:	08.12.08

Dart Aerospace Po. 00004660 D 6002-115
Made in Germany
Dest. Hawkesbury Ont. Canada

free from live plant pests

[illegible]

**ALUnna****Abnahmeprüfzeugnis 3.1 - EN 10204:2004****Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004****Kunde:** Dart Aerospace Ltd.**Client:**1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada**Zeugnisnummer:** 1174/08**Cert No. / No. du certificat:****Bestellnummer:** PO 00004660**Order No. / No. de commande****Auftrag:** 27068/1**Our Reference/Notre Reference:****Produkt:****Product / Produit:**Rohre nahtlos gepresst
Tubes seamless extruded**Spezifikation:****Specification:**

AMS - QQ - A - 200/11E; Spezifikation Dart Aerospace D6001

Werkstoff:**Alloy/Alliage:**

7075

Zustand:**Temper/Etat**

T 6511

Abmessung**Size / Dimension**2,250 INCH x 1,750 INCH x 0,250 INCH x 115,000 INCH
D6002-115 2.250 X 0.250 X 115**Kennzeichnung****Marking/Marquage:**ALUnna - Cert No. 1174/08 - 7075 - T 6511 - Cast No. 1245 - AMS - QQA 200/11 - 2.250" OD X 0.250" Wall - Heat
No. 1819 - Lot 27068/1-1 PO. 00004660**Lieferung****Delivered Material / Matériel délivré:**

pcs.

lbs

Country of Manufacture: Germany

63

1160

1. Chemische Analyse**Chemical Analysis / analyse chimique**

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
Charge/ min.			1,2		2,1	0,18	5,1						
Cast No. max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
1245/08	0,093	0,185	1,399	0,044	2,455	0,192	5,758	0,036	0,002	0,0167	0,0001	0,0011	0,0001

Hydrogen content: 0,11**ccm/100 g Al** Elements without indication < 0,01 %**country of melt manufacturer: Germany****2. Mechanische Eigenschaften****Mechanical Properties / Valeurs Mécaniques**

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat Lot No.
min. max.	77,0	66,0				
1	82,070	74,530	11,0			1819 - 63 pcs.
2	82,650	75,255	10,0			

RMS: outside 25 - max. 8,5 µ"

**Ergebnis der
Prüfungen:**

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Resultats:

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

Kramper



Certified acc. DIN EN ISO 9001:2000 and DIN EN 9100:2003

valid until 2010-11-11

Cert.- Reg. No.: 001959 QM; 001959 ASH

11.08.2008

Aluminiumwerk Unna AG, Uelzener Weg 36, 59425 Unna, Germany

**ALUnna**

Abnahmebeauftragter

Item	Qty -147	Part Number	Description
1	X	D206-667-147	CROSSTUBE ASSEMBLY (206L MID FWD)
2	1	D6002-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2891-1	SUPPORT
6	4	D3595-063-395	RUBBER CUSHION
7	4	MS21920-20	CLAMP (OR MS21920-21)
8	14	MS20801AD4W8	RIVET (OR NAS9302B-4-8)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299- 947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

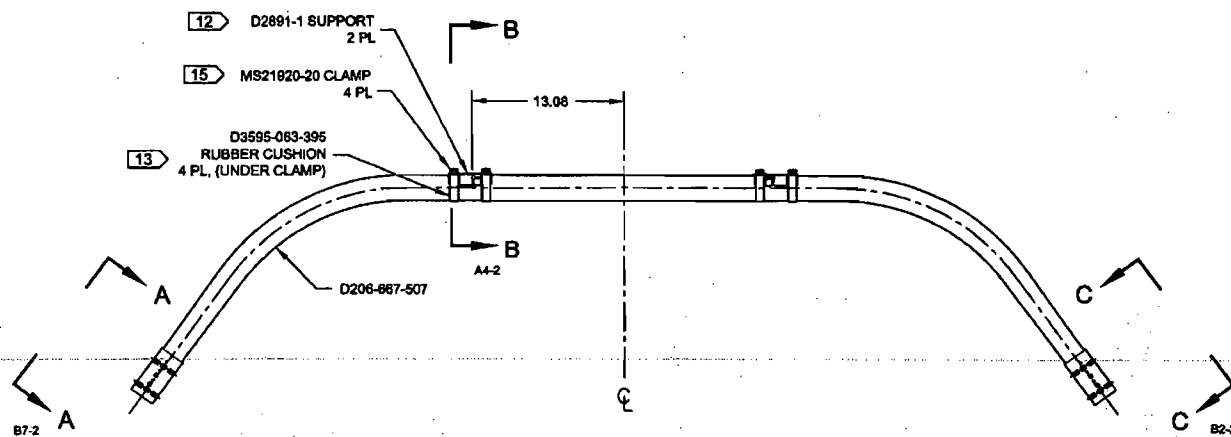
- 1) MATERIAL: MANUFACTURED FROM D6002-115
FINISHED LENGTH = 99.84±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-147" AND BATCH NUMBER ON
INSIDE OF CUFF PER DART QSI 044 6.4 (VIBRATING STYLUS).
- 7) WEIGHT: 15.0 lbs (-507 = 12.84)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY,
TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE
TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI
015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-20 CLAMPS (OR -21) WITH D3595-063-395 RUBBER CUSHIONS TO SECURE
THE D2891-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS
ARE LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN
SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

RELEASED
2011-05-23
JNP

A	NEW ISSUE	CP	10.11.23
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.12.23		

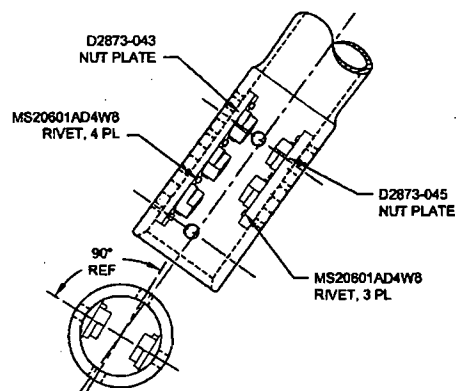
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D206-667-147	REV. A SHEET 1 OF 4
TITLE CROSSTUBE ASS'Y (206L MID FWD)	SCALE NTS
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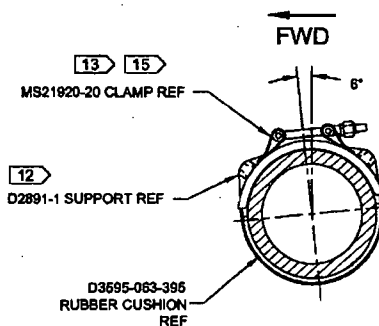


D206-667-147
ASSEMBLY DETAIL
(VIEW LOOKING FWD)

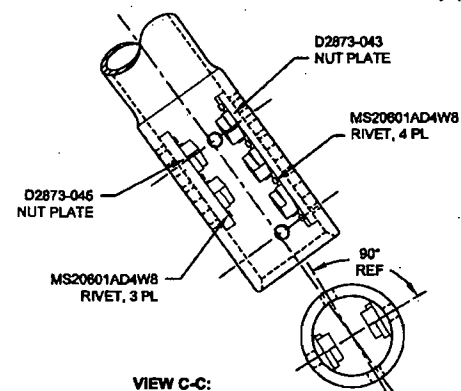
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2011-05-24



VIEW A-A:
CUFF DETAIL
SCALE 4X



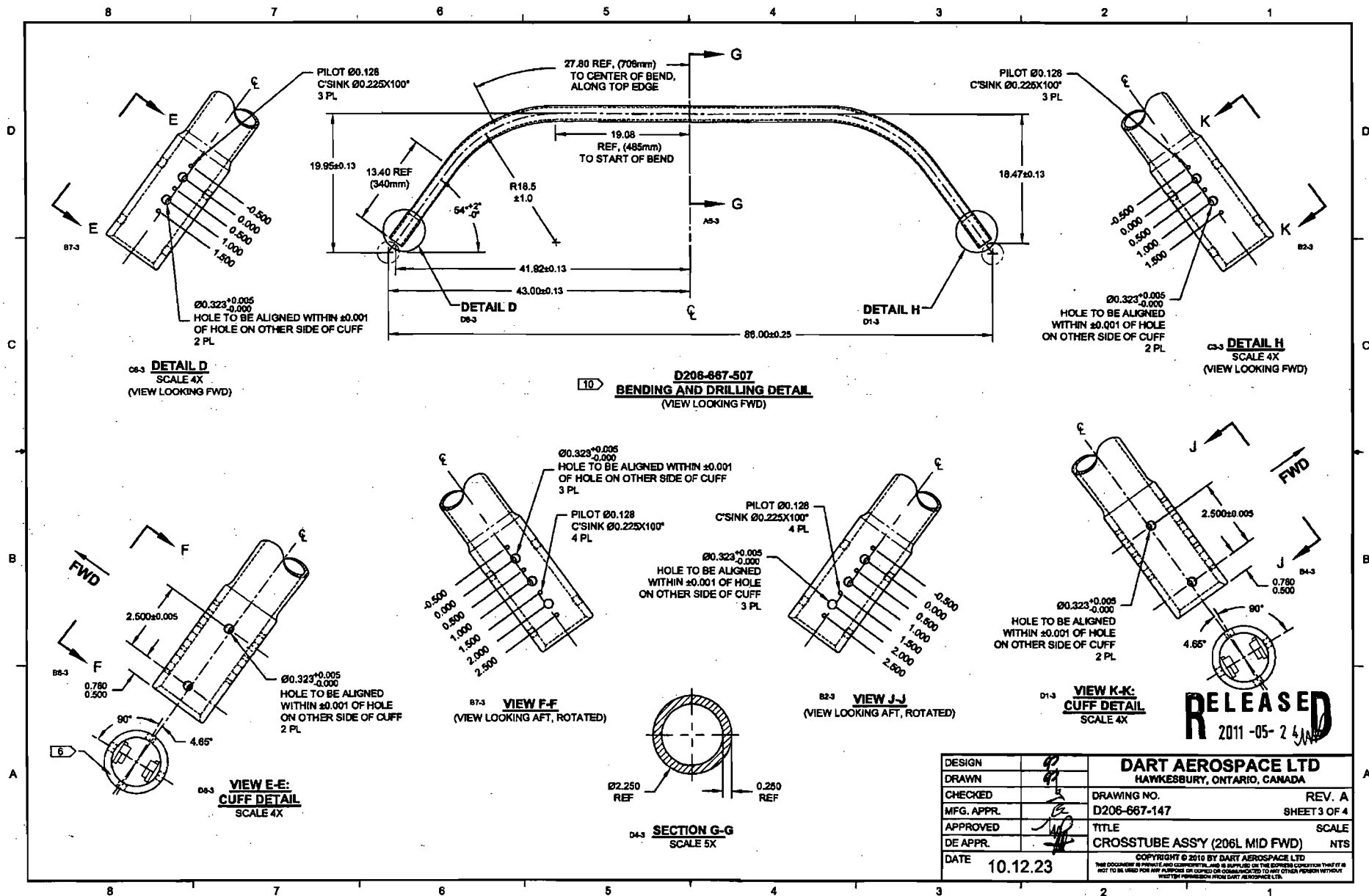
SECTION B-B
SCALE 5X



VIEW C-C:
CUFF DETAIL
SCALE 4X

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DRAWN		HAWKESBURY, ONTARIO, CANADA	
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MFG. APPR.		D206-667-147	SHEET 2 OF 4
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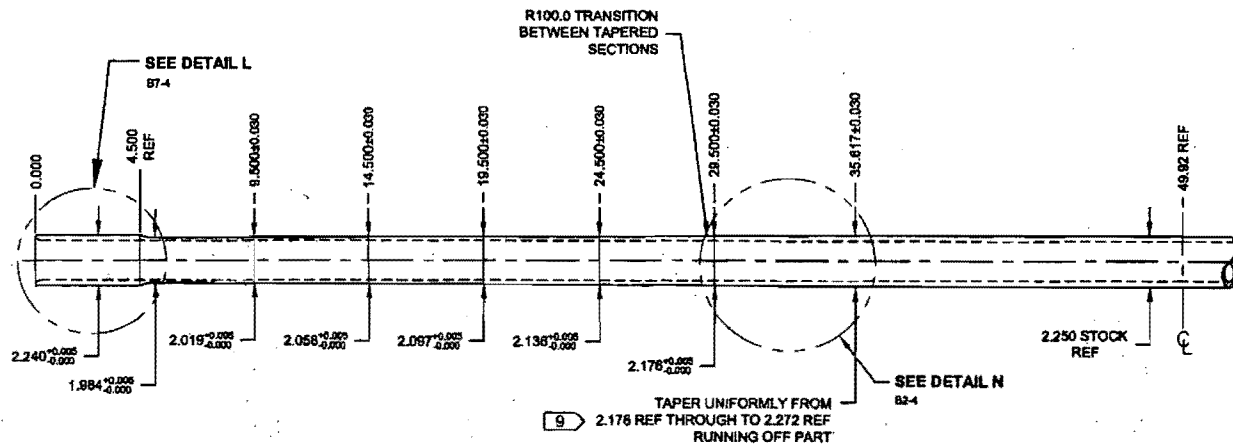
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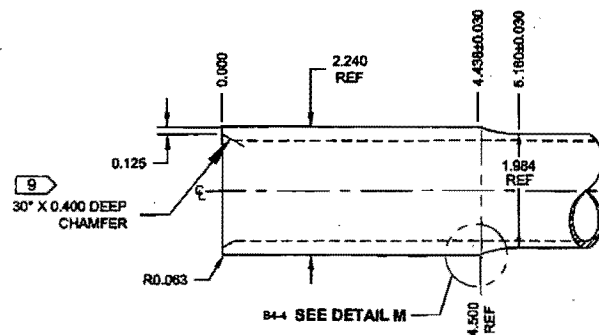
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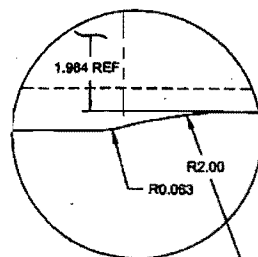
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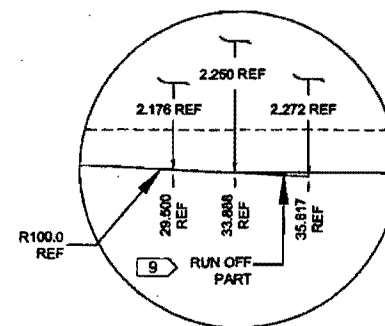
TURNING DETAIL



DETAIL L:
D7-4 CROSSTUBE CUFF
NOT TO SCALE



DETAIL M:
A5-4 CUFF TRANSITION
NOT TO SCALE



DETAIL N:
C4-4 TAPER RUN-OFF
NOT TO SCALE

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2011-05-13

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DRAWN		HAWKESBURY, ONTARIO, CANADA	
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MFG. APPR.		D208-667-147	SHEET 4 OF 4
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